

MS 163146.2

B & W Ref. No. 3797.00090

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What is claimed is:

- ① Sub B1
1. A method for detecting an in-air gesture, comprising steps of:
 - 2 determining whether a digitizing pen is not in contact with a digitizing writing
 - 3 surface;
 - 4 determining whether the digitizing pen is in motion with respect to the
 - 5 digitizing writing surface;
 - 6 recording positional information of the digitizing pen with respect to the
 - 7 surface of the digitizing writing surface within a moving buffer when the digitizing pen is
 - 8 determined to not be in contact with the digitizing writing surface and when the digitizing
 - 9 pen is determined to be in motion with respect to the digitizing writing surface, the moving
 - 10 buffer recording a predetermined amount of positional information spanning a predetermined
 - 11 amount of time while the digitizing pen is in motion and not in contact with the digitizing
 - 12 writing surface;
 - 13 determining when the digitizing pen has stopped motion with respect to the
 - 14 surface of the digitizing writing surface while the digitizing pen is not in contact with the
 - 15 digitizing writing surface; and
 - 16 determining whether positional information recorded in the moving buffer
 - 17 corresponds to a predetermined in-air gesture that can be made with the digitizing pen.

- 2 1 2. The method according to claim 1, further comprising a step of displaying a

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predetermined user interface panel when the positional information recorded in the moving buffer corresponds to a predetermined in-air gesture that can be made with the digitizing pen.

3. The method according to claim 1, wherein the predetermined in-air gesture is a spike motion.

4. The method according to claim 3, wherein the in-air gesture is a down spike motion.

5. The method according to claim 3, wherein the in-air gesture is an up spike motion.

6. The method according to claim 3, wherein the in-air gesture is a right spike motion.

7. The method according to claim 3, wherein the in-air gesture is a left spike motion.

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8 1 8. The method according to claim 1, wherein the predetermined amount of
2 positional information is about 200 points of coordinate information.

9 1 9. The method according to claim 1, wherein the predetermined amount of time
2 that positional information is recorded in the moving buffer is about 1 second.

10 1 10. The method according to claim 1, wherein the moving buffer includes
2 positional information corresponding to a starting point and an ending point, and
3 wherein the step of determining whether positional information recorded in
4 the moving buffer corresponds to the predetermined in-air gesture is based on a relative
5 position of the starting point with respect to the ending point.

11 1 11. The method according to claim 1, wherein the step of determining whether
2 positional information recorded in the moving buffer corresponds to a predetermined in-air
3 gesture is based on a detected motion shape.

12 1 12. The method according to claim 1, wherein the step of determining whether
2 positional information recorded in the moving buffer corresponds to a predetermined in-air

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3 gesture is based on a detected motion size.

13 1 13. The method according to claim 1, wherein the step of determining whether
2 positional information recorded in the moving buffer corresponds to a predetermined in-air
3 gesture is based on a detected motion speed.

14 1 14. The method according to claim 1, wherein the digitizing pen and digitizing
2 writing surface are electromagnetic devices.

15 1 15. The method according to claim 1, wherein the digitizing pen and digitizing
2 writing surface are optical devices.

16 1 16. The method according to claim 1, wherein in the step of determining whether
2 the digitizing pen is not in contact with the digitizing writing surface includes a step of
3 receiving an input indicating that the digitizing pen is in a hovering state.

17 1 17. The method according to claim 1, further comprising a step of sending a
2 predetermined character to an application program when the positional information recorded

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3 in the moving buffer corresponds to a predetermined in-air gesture that can be made with the
4 digitizing pen.

18 1 18. The method according to claim 1, further comprising a step of sending a
2 predetermined sequence of characters to an application program when the positional
3 information recorded in the moving buffer corresponds to a predetermined in-air gesture that
4 can be made with the digitizing pen.

19 1 19. The method according to claim 1, further comprising a step of sending a
2 predetermined command to an application program when the positional information recorded
3 in the moving buffer corresponds to a predetermined in-air gesture that can be made with the
4 digitizing pen.

20 1 20. A computer-readable medium having computer-executable instructions for
2 performing steps comprising:
3 determining whether a digitizing pen is not in contact with a digitizing writing
4 surface;
5 determining whether the digitizing pen is in motion with respect to the

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6 digitizing writing surface;
7 recording positional information of the digitizing pen with respect to the
8 surface of the digitizing writing surface within a moving buffer when the digitizing pen is
9 determined to not be in contact with the digitizing writing surface and when the digitizing
10 pen is determined to be in motion with respect to the digitizing writing surface, the moving
11 buffer recording a predetermined amount of positional information spanning a predetermined
12 amount of time while the digitizing pen is in motion and not in contact with the digitizing
13 writing surface;
14 determining when the digitizing pen has stopped motion with respect to the
15 surface of the digitizing writing surface while the digitizing pen is not in contact with the
16 digitizing writing surface; and
17 determining whether positional information recorded in the moving buffer
18 corresponds to a predetermined in-air gesture that can be made with the digitizing pen.

21 1 21. The computer-readable medium according to claim 20, wherein the steps
2 further comprise displaying a predetermined user interface panel when the positional
3 information recorded in the moving buffer corresponds to a predetermined in-air gesture that
4 can be made with the digitizing pen.

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22 1 22. The computer-readable medium according to claim 20, wherein the
2 predetermined in-air gesture is a spike motion.

23 1 23. The computer-readable medium according to claim 22, wherein the in-air
2 gesture is a down spike motion.

24 1 24. The computer-readable medium according to claim 22, wherein the in-air
2 gesture is an up spike motion.

25 1 25. The computer-readable medium according to claim 22, wherein the in-air
2 gesture is a right spike motion.

26 1 26. The computer-readable medium according to claim 22, wherein the in-air
2 gesture is a left spike motion.

27 1 27. The computer-readable medium according to claim 20, wherein the
2 predetermined amount of positional information is about 200 points of coordinate

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3 information.

28 1 28. The computer-readable medium according to claim 20, wherein the
2 predetermined amount of time that positional information is recorded in the moving buffer is
3 about 1 second.

29 1 29. The computer-readable medium according to claim 20, wherein the moving
2 buffer includes positional information corresponding to a starting point and an ending point,
3 and
4 wherein the step of determining whether positional information recorded in
5 the moving buffer corresponds to the predetermined in-air gesture is based on a relative
6 position of the starting point with respect to the ending point.

30 1 30. The computer-readable medium according to claim 20, wherein the step of
2 determining whether positional information recorded in the moving buffer corresponds to a
3 predetermined in-air gesture is based on a detected motion shape.

31 1 31. The computer-readable medium according to claim 20, wherein the step of

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2 determining whether positional information recorded in the moving buffer corresponds to a
3 predetermined in-air gesture is based on a detected motion size.

32 1 32. The computer-readable medium according to claim 20, wherein the step of
2 determining whether positional information recorded in the moving buffer corresponds to a
3 predetermined in-air gesture is based on a detected motion speed.

33 1 33. The computer-readable medium according to claim 20, wherein the digitizing
2 pen and digitizing writing surface are electromagnetic devices.

34 1 34. The computer-readable medium according to claim 20, wherein the digitizing
2 pen and digitizing writing surface are optical devices.

35 1 35. The computer-readable medium according to claim 20, wherein in the step of
2 determining whether the digitizing pen is not in contact with the digitizing writing surface
3 includes a step of receiving an input indicating that the digitizing pen is in a hovering state.

36 1 36. The computer-readable medium according to claim 20, wherein the steps

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2 further comprise sending a predetermined character to an application program when the
3 positional information recorded in the moving buffer corresponds to a predetermined in-air
4 gesture that can be made with the digitizing pen.

37 1 37. The computer-readable medium according to claim 20, wherein the steps
2 further comprise sending a predetermined sequence of characters to an application program
3 when the positional information recorded in the moving buffer corresponds to a
4 predetermined in-air gesture that can be made with the digitizing pen.

38 1 38. The computer-readable medium according to claim 20, wherein the steps
2 further comprise a step of sending a predetermined command to an application program
3 when the positional information recorded in the moving buffer corresponds to a
4 predetermined in-air gesture that can be made with the digitizing pen.

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